SEAFAN BleachWatch Program

CURRENT CONDITIONS REPORT #20221018

OCT. 18, 2022

Summary: Based on climate predictions and field observations, the threat for mass coral bleaching in Southeast Florida between Miami-Dade and Martin counties is LOW as of Oct. 18, 2022.

Bleaching Alert Area

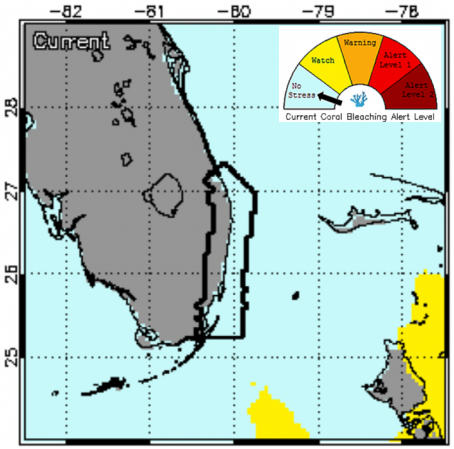


Figure 1. NOAA Coral Reef Watch Bleaching Alert Area for 10/18/2022

Hot Spot

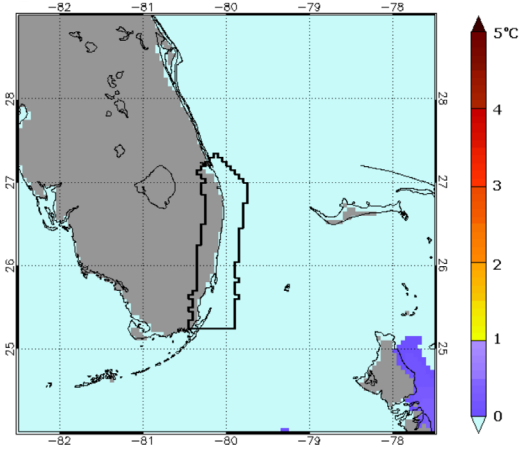


Figure 2. NOAA Coral Reef Watch Hot Spots for 10/18/2022

Degree Heating Week

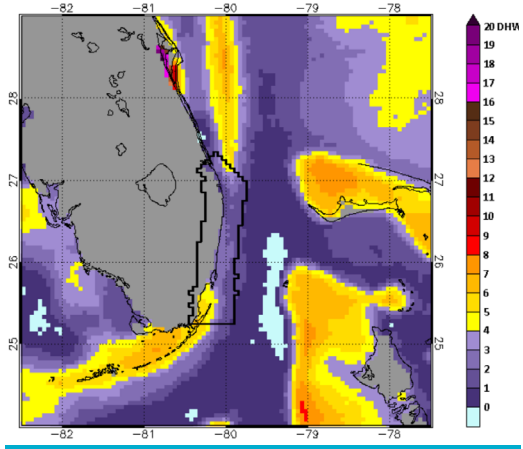


Figure 3. NOAA Coral Reef Watch Degree Heating Week for 10/18/2022

Virtual Station Data

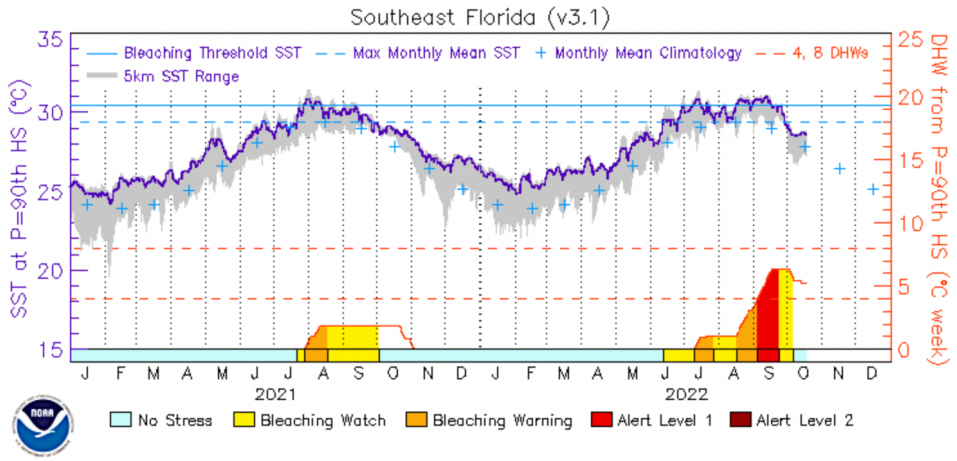


Figure 4. NOAA Coral Reef Watch Virtual Station Data
1/1/2021 – 10/18/2022

ENVIRONMENTAL MONITORING

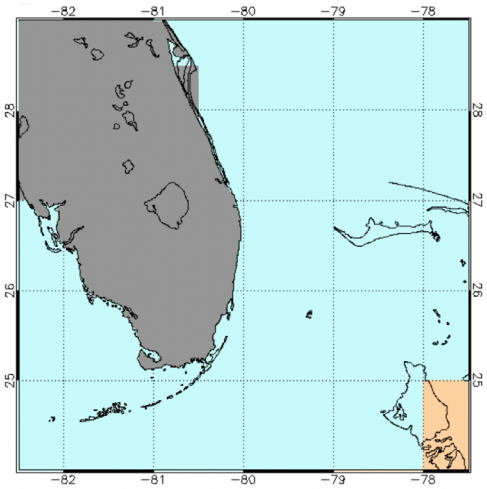
Climate predictions for this current conditions report are based on the National Oceanic and Atmospheric Administration's Coral Reef Watch (CRW) satellite imagery, which summarizes sea surface temperature (SST) data and provides an indication as to when conditions are favorable for coral bleaching. **The current CRW 5K Coral Bleaching Alert Area indicates that the Southeast Florida region is presently experiencing low thermal stress (Figure 1)**.

- NOAA's experimental 5K Bleaching Hot Spot Map **(Figure 2)** compares current SST to the maximum monthly mean. Corals start to become stressed when SST is 1º C greater than the highest monthly average. **Currently, SST remains below the 1º C Hot Spot bleaching threshold**.

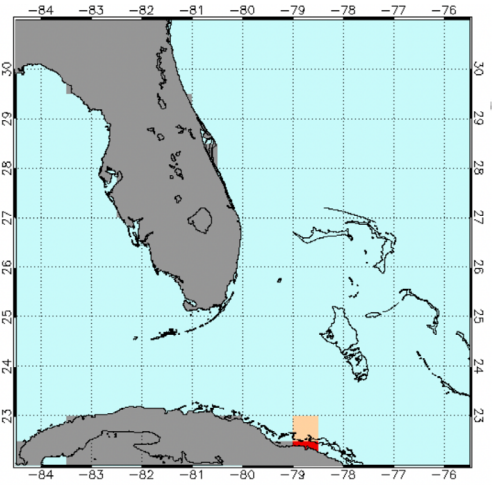
- Coral bleaching risk increases if the temperature stays elevated for an extended period. NOAA's experimental 5K Degree Heating Weeks (DHW) Map **(Figure 3)** shows the accumulation of temperature stress over the previous 12 weeks, with 1 DHW equal to one week at 1º C greater than the maximum monthly mean. **Currently, this map indicates that temperature stress has accumulated across the Southeast Florida region and has accumulated most in southern Miami-Dade County**.

- Near real-time data from CRW's new 5K Satellite Regional Virtual Station for Southeast Florida indicates that **SST in the region is below the maximum monthly average and bleaching threshold of the region (Figure 4)**.

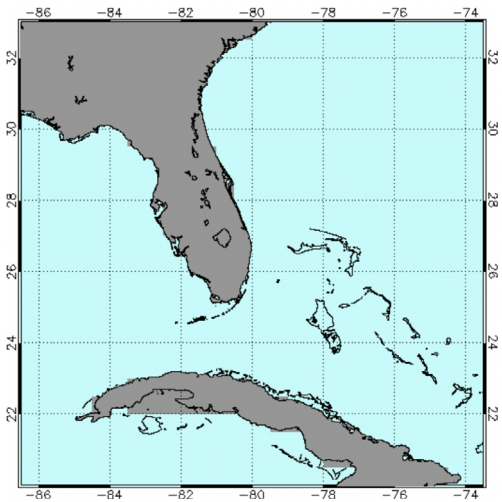
5A. One- to Four-Week Outlook



5B. Five- to Eight-Week Outlook



5C. Nine- to 12-Week Outlook



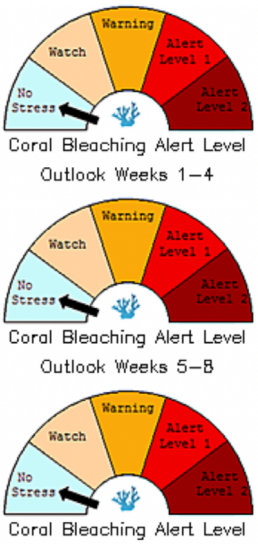


Figure 5. NOAA CRW Southeast Florida Satellite 60% Probability Coral Bleaching Outlook Areas for Oct. 18, 2022 - Jan. 10, 2023

SSTs are lower than the monthly mean in Southeast Florida and are under the bleaching threshold. The Southeast Florida Satellite Coral Beaching Alert Area Outlook for the **upcoming four weeks** predicts that the region will be under **No Stress (Figure 5A)**. The **five- to eight-week** outlook indicates that the region will be under **No Stress (Figure 5B)**. The **nine- to 12-week** outlook indicates the region will be under **No Stress (Figure 5C)**.

The Florida Department of Environmental Protection's Coral Reef Conservation Program will continue to monitor NOAA's Hot Spot, DHW and Alert Area maps as well as Virtual Station data for the remainder of the bleaching season.

OBSERVER NETWORK

The Southeast Florida Action Network (SEAFAN) BleachWatch Program has received 20 reports since Sept. 10, 2022. All 20 reports indicated coral colonies were exhibiting signs of paling, partial bleaching or full bleaching. There were 14 reports from Broward County, three from Palm Beach County and three from Miami-Dade County.

At those sites where paling/partial bleaching/full bleaching was observed, the overall percentage of coral exhibiting signs of thermal stress was 11% to 100%. It was observed on branching, fleshy, leaf, plate, sheet, mound, boulder and soft corals. There were also observations of bleached *Palythoa spp.* and fire coral.

Coral disease continues to pose a threat to Florida's Coral Reef. Of the 20 reports received since early September, there were 10 noting observations of coral disease. There were three reports from Palm Beach County, six from Broward County and one from Miami-Dade County. At those sites where disease was observed, the overall percentage of coral exhibiting signs of disease was 1% to 30%. There were no reports of black band, growth anomalies or unknown diseases within Martin, Palm Beach, Broward and Miami-Dade counties.

The next Current Conditions Report will be issued in November. Water temperature has decreased and will remain low for the rest of bleaching season. Future observer reports will be critical to help determine which coral species are demonstrating resilience after this bleaching event. SEAFAN encourages the BleachWatch network to submit reports on coral bleaching and disease after every dive on the reef. This includes reports of "No Bleaching" and "No Disease."

For more information about SEAFAN BleachWatch or to take a BleachWatch Training and become a part of the observer network, please contact the Reef Resilience Coordinator at 561-681-6631 or email Coral@FloridaDEP.gov.

September Observation
Broward County

Figure 6. Partially bleached *Palythoa spp.*; photo by Jack Israel.

September Observation
Broward County

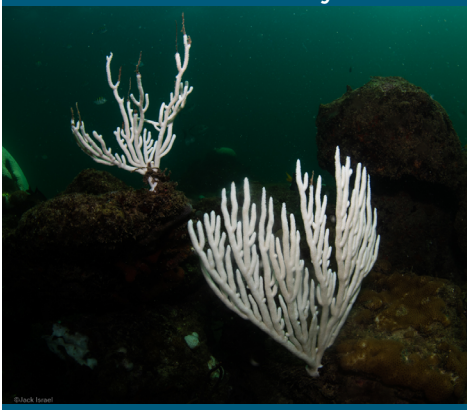


Figure 7. Bleached soft coral (*Gorgonian spp.*); photo by Jack Israel.

September Observation
Broward County

Figure 8. Bleached symmetrical brain coral (*Pseudodiploria strigosa*); photo by Jack Israel.

Submit photos of SEAFAN tagged coral species by using the Citizen Science Photo Submission Form.

Program Partners

NOAA Coral Reef Conservation Program · NOAA · National Marine Sanctuaries Florida Keys · Mote Marine Laboratory · Friends of Our Florida Reefs FloridaReef.org · Florida's Coral Reef

Florida Department of Environmental Protection
Southeast Florida Action Network (SEAFAN) BleachWatch